SEQUENCE LISTING

E2

<110> Meloen, Robert Hans

Oonk, Hendrica Berendina

<120> An Improved Peptide, Immunogenic Composition and Vaccine or Medical Preparation, a Method to Immunise Animals Against the Hormone LHRH, and Analogs of the LHRH Tandem Repeat Peptide and their Use as Vaccine

<130> 2183-4518US

<140> 09/659,983

<141> 2000-09-12

<150> US 09/274,048

<151> 1999-03-22

<150> US 08/981,557

<151> 1995-06-07

<150> PCT/NL96/00223

<151> 1996-06-06

<150> US 08/447,298

<151> 1995-06-07

<150> US 08/476,013

<151> 1995-06-07

<160> 13

<170> PatentIn version 3.1

<210> 1

<211> 10

<212> PRT

<213> Sus scrofa

E2 cont

<220>

<221> MISC_FEATURE

<222> (1)..(1)

<223> X=pyroglutamic acid

<220>

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<222> (10)..(10)

<223> X=Gly-NH2

<400> 1

Xaa His Trp Ser Tyr Gly Leu Arg Pro Xaa
1 5 10

<210> 2

<211> 10

<212> PRT

<213> Homo sapiens

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<223> X=pyroglutamic acid

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<222> (10)..(10)

<223> X=Gly-NH2

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Xaa His Trp Ser His Gly Trp Tyr Pro Xaa
1 5 10

<210> 3

<211> 20

<212> PRT

<213> Artificial Sequence

E2 cont.

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<223> A peptide suitable for eliciting an immune response against forms GnRH/ LHRH.

<220>

<221> MISC_FEATURE

<222> (1)..(1)

<223> X=pyroglutamic acid or Gln with attached tail of one or more additional amino acids

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<222> (3)..(3)

<223> X=Trp or N(indole)-formyl-tryptophan

<220>

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<222> (10)..(11)

<223> there is either a direct bond or a spacer group between Gly at position 10 and Gln at position 11

<220>

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<222> (13)..(13)

<223> X=Trp or N(indole)-formyl-tryptophan

<220>

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<222> (20)..(20)

<223> X=Gly-NH2 or Gly with attached tail or one or more amino acids

E2 cont.

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<221> REPEAT

<222> (10)..(19)

<223> repeat of amino acid sequence between positions 10-19 where the a
mino acids in positions 10-19 are present at least once

<400> 3

Xaa His Xaa Ser Tyr Gly Leu Arg Pro Gly Gln His Xaa Ser Tyr Gly
1 5 10 15

Leu Arg Pro Xaa
20

<210> 4

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<223> A peptide suitable for eliciting an immune response against forms
GnRH/ LHRH.

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<222> (1)..(1)

<223> X=pyroglutamic acid

<220>

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<222> (6)..(6)

<223> X=D-Lys

<220>

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<222> (11)..(11)

<223> X=Gln or Gln preceded by a spacer

E2 cont.

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<222> (16)..(16)

<223> X=D-Lys

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<222> (21)..(21)

<223> X=Cys-NH2

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1 5 10 15

Leu Arg Pro Gly Xaa
20

<210> 5

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<223> X=pyroglutamic acid

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<223> D-Lys

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<223> X=D-Lys

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<222> (21)..(21)

<223> X=Cys-NH2

<400> 5

Xaa His Trp Ala Tyr Xaa Leu Arg Pro Gly Xaa His Trp Ala Tyr Xaa
1 5 10 15

Leu Arg Pro Gly Xaa
20

<210> 6

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GnRH/ LHRH.

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E2 Cont.

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<223> X=D-Lys

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<222> (11)..(11)

<223> X=Gln or Gln preceded by a spacer

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<222> (16)..(16)

<223> X=D-Lys

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<222> (21)..(21)

<223> X=Cys=NH2

<400> 6

Xaa His Trp Ser Tyr Xaa Leu Ala Pro Gly Xaa His Trp Ser Tyr Xaa
1 5 10 15

Leu Ala Pro Gly Xaa
20

<210> 7

<211> 21

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E2 cont.

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<222> (21)..(21)

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Xaa His Trp Ser Tyr Xaa Leu Arg Pro Ala Xaa His Trp Ser Tyr Xaa
1 5 10 15

Leu Arg Pro Ala Xaa
20

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<211> 42

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<222> (1)..(1)

<223> X=NH2-Glu

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<220>

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<222> (16)..(16)

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<222> (22)..(22)

<223> X=NH2-Glu

<220>

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<222> (27)..(27)

<223> X=D-Lys

<220>

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<222> (32)..(32)

<223> X=Gln or Gln preceded by a spacer

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<222> (37)..(37)

<223> X=D-Lys

<220>

<221> SITE

<222> (21)..(42)

<223> dimer formed between Cys 21 and Cys 42

<400> 8

Xaa His Trp Ser Tyr Xaa Leu Arg Pro Gly Xaa His Trp Ser Tyr Xaa
1 5 10 15

Leu Arg Pro Gly Cys Xaa His Trp Ser Tyr Xaa Leu Arg Pro Gly Xaa
20 25 30

His Trp Ser Tyr Xaa Leu Arg Pro Gly Cys
35 40

<210> 9

<211> 21

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<220>

<223> A peptide suitable for eliciting an immune response against forms GnRH/ LHRH.

E2 Cont.

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<223> X=pyroglutamic acid

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<222> (6)..(6)

<223> X=D-Lys

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<222> (11)..(11)

<223> X=Gln or Gln preceded by a spacer

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<222> (16)..(16)

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<222> (21)..(21)

<223> X=Cys-NH2

<400> 9

Xaa His Trp Ser Tyr Xaa Leu Arg Pro Gly Xaa His Trp Ser Tyr Xaa
1 5 10 15

Leu Arg Pro Gly Xaa
20

<210> 10

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E2 cont.

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<223> A peptide suitable for eliciting an immune response against forms GnRH/ LHRH.

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<222> (1)..(1)

<223> X=Ala modified with acetyl group

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<222> (16)..(16)

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<222> (21)..(21)

<223> X=Cys-NH2

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1 5 10 15

Leu Arg Pro Gly Xaa
20

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EJ Cont.

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<223> A peptide suitable for eliciting an immune response against forms GnRH/ LHRH.

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<221> MISC_FEATURE

<222> (6)..(6)

<223> X=D-Lys

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<221> MISC_FEATURE

<222> (11)..(11)

<223> X=Gln or Gln preceded by a space

<220>

<221> MISC_FEATURE

<222> (16)..(16)

<223> X=D-Lys

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<221> MISC_FEATURE

<222> (21)..(21)

<223> X=Cys-NH2

<400> 11

Xaa His Trp Ser Ala Xaa Leu Arg Pro Gly Xaa His Trp Ser Ala Xaa
1 5 10 15

Leu Arg Pro Gly Xaa
20

E2 Cont.

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<223> X=pyroglutamic acid

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<222> (6)..(6)

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<222> (11)..(11)

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<222> (16)..(16)

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<222> (21)..(21)

<223> X=Cys-NH2

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E2 cont.

Xaa His Trp Ser Tyr Xaa Ala Arg Pro Gly Xaa His Trp Ser Tyr Xaa
1 5 10 15

Ala Arg Pro Gly Xaa
20

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<223> X=pyroglutamic acid

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<222> (6)..(6)

<223> X=D-Lys

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<221> MISC_FEATURE

<222> (11)..(11)

<223> X=Gln or Gln preceded by a spacer

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<221> MISC_FEATURE

<222> (16)..(16)

<223> X=D-Lys

E2 conc.

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<222> (21)..(21)

<223> X=Cys-NH2

<400> 13

Xaa His Trp Ser Tyr Xaa Leu Arg Ala Gly Xaa His Trp Ser Tyr Xaa
1 5 10 15

Leu Arg Ala Gly Xaa
20